

Chapter 1: Introduction

The South Florida Water Management District (SFWMD or District) has undertaken development of long-term comprehensive regional water supply plans by planning for better management of South Florida's water resources. Chapter 373, Florida Statutes (F.S.), requires the District to prepare water supply plans for regions that are anticipated to have the potential of demand outstripping available supply in at least a 20 year future time horizon. The District has committed to preparing water supply plans for each of its four planning regions (**Figure 1**), which cumulatively cover the entire District. These regions are generally defined by hydrologic divides.

Purpose

The purpose of water supply planning is to develop strategies to meet future water demands of urban and agricultural uses while meeting the needs of the environment. This process identifies areas where historically used sources of water will not be adequate to meet future demands, and evaluates several water source options to meet the deficit.

Legal Authority and Requirements

Water supply planning activities were first required of the state's water management districts following adoption of the Florida Water Resources Act of 1972 (Chapter 373, Florida Statutes). The authors of "A Model Water Code" (Maloney et al., 1972), upon which much of Chapter 373 is based, theorized that proper water resource allocation could best be accomplished within a statewide, coordinated planning framework. The State Water Use Plan and the State Water Policy were the primary documents formulated to meet this objective.

With the passage of subsequent legislative amendments, the Legislature eliminated the State Water Use Plan and called for the development of the Florida Water Plan. The Florida Water Plan is required to include the Water Resource Implementation Rule (formerly known as the State Water Policy), and District Water Management Plans (DWMPs).

The Water Resource Implementation Rule sets forth goals, objectives, and guidance for the development and review of water resource programs, rules, and plans. These directives are prescribed in the Water Resources Act (Chapter 373, F.S.), the Florida Air and Water Pollution Control Act (Chapter 403, F.S.), and, the State Comprehensive Plan (Chapter 187, F.S.). These statutes provide the basic authorities, directives, and policies for statewide water management, pollution control, and environmental protection. The current legal framework for water supply planning is shown in **Figure 2**. The history of water supply planning is included in the Consolidated Water Supply Support Document (Draft in progress as of July 2003).

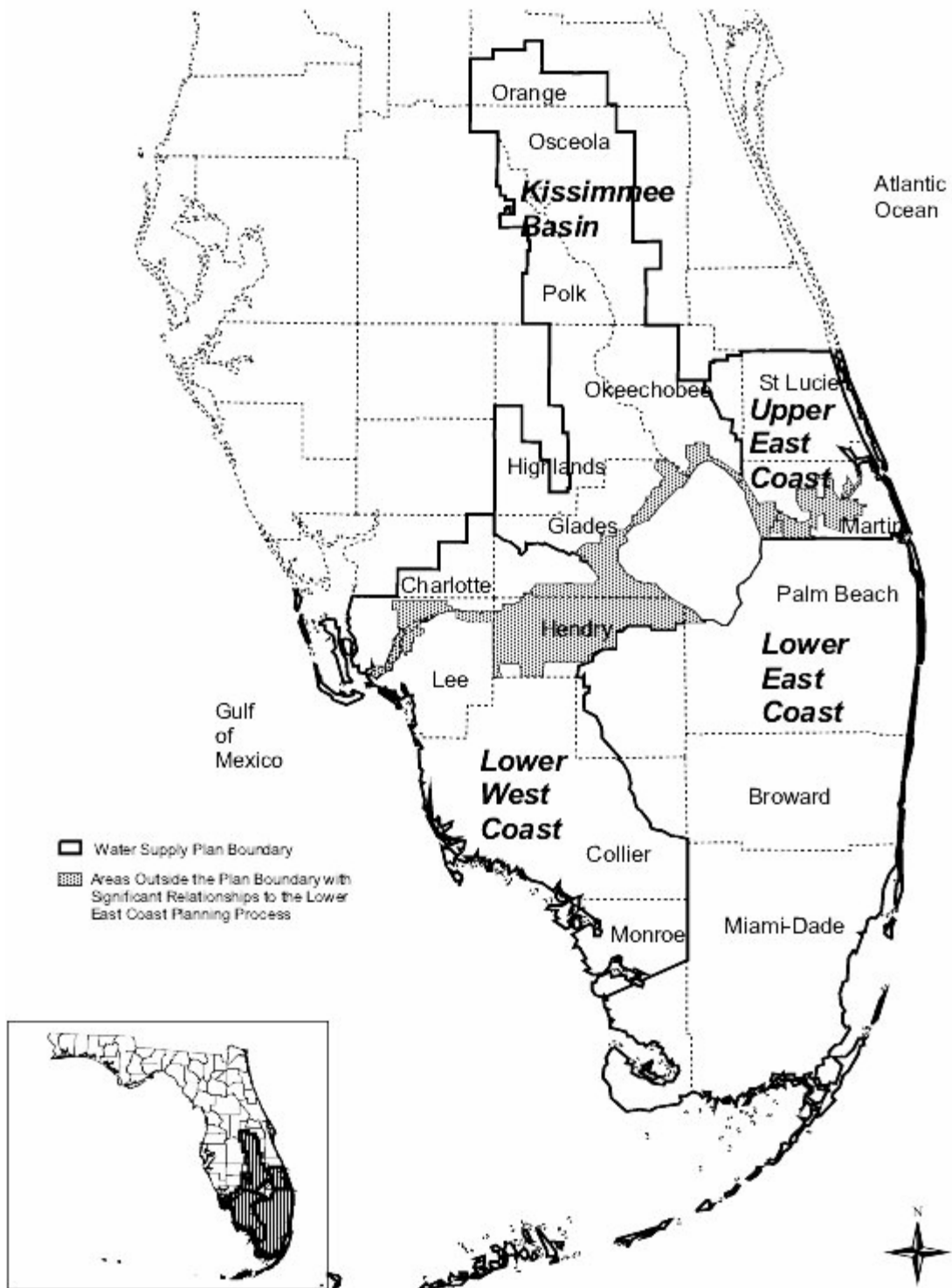


Figure 1. Planning regions of the South Florida Water Management District

The overall goal in water supply plans is derived from the State Comprehensive Plan:

Florida shall assure the availability of an adequate supply of water for all competing uses deemed reasonable and beneficial and shall maintain the functions of natural systems and the overall present level of surface and ground water quality. Florida shall improve and restore the quality of waters not presently meeting water quality standards.

The 1997 Legislature adopted more specific legislation concerning the role of the water management districts in water resource and water supply planning and development. The legislative intent was to provide for current and future human and environmental demands for a 20 year planning horizon.

Plan Goals and Objectives [Need to discuss in public workshop]

The former advisory committee of the Upper East Coast Water Supply Plan (UECWSP) adopted the following goal and objectives to guide development of the water supply plan to ensure the water needs of this region will be met. It is proposed that the goal and objectives remain for a planning horizon through 2025.

Plan Goal

The water resource goal of the state was incorporated into the goal for the UECWSP:

Identify sufficient sources of water and funding to meet the needs of all reasonable-beneficial uses within the Upper East Coast Planning Area for the year 2025 during a drought event that has the probability of occurring no more frequently than once every ten years, while sustaining the water resources and related natural systems.

Plan Objectives

The following regional objectives (no implied priority) were adopted to ensure the Upper East Coast Water Supply Plan addresses the specific needs of the region:

Water Supply: Promote the use of water supply alternatives and conservation.

Floridan Aquifer: Establish water quality criteria limitations for the Floridan Aquifer System (FAS) within the UEC.

Water Resource Protection: Protect water resources from harm due to water uses, including preventing harmful movement of saline water within the Floridan Aquifer System as a result of water use.

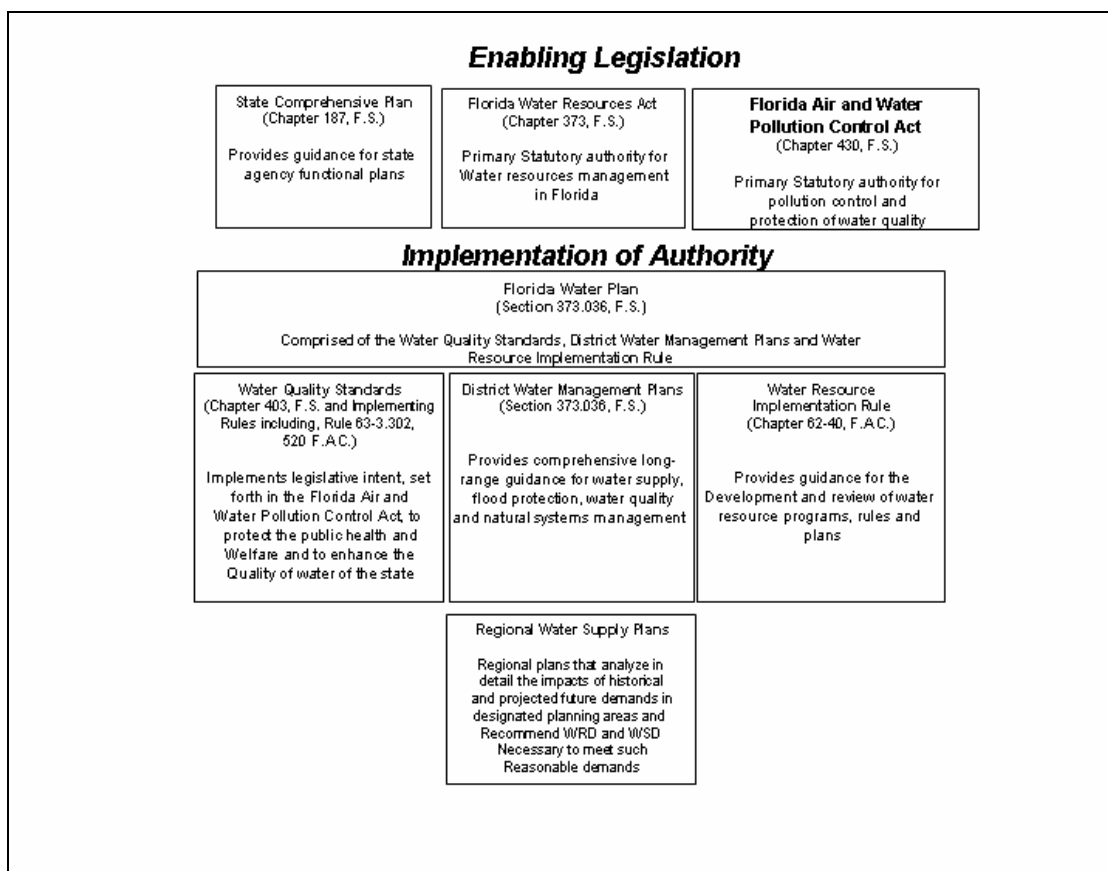


Figure 2. Legal framework for water supply planning

Wetland Protection: Protect wetland systems from significant harm due to water use drawdowns.

Saltwater Intrusion: Develop criteria and programs for Surficial Aquifer System protection from saltwater intrusion.

Level of Drought: Establish level of certainty a 1-in-10 (annual rainfall event, expressed in terms of return frequency) for all permitted water users and for the environment.

Flood Protection: Consider flood protection during the water supply planning process.

Compatibility with Local Governments: Promote compatibility between the UEC Water Supply Plan and local land use decisions and policies.

Estuary: Protect and enhance the St. Lucie River Estuary and Indian River Lagoon.

Linkage with Other Regional Planning Efforts: Promote compatibility and integration with other related regional water resource planning efforts, including, but not limited to, the Indian River Lagoon (IRL) Surface Water and Management (SWIM) Plan, IRL Restoration Feasibility Study, Lake Okeechobee SWIM Plan, Lake Okeechobee Regulation Schedule Study, the Lower East Coast Water Supply Plan, ~~Central and Southern Florida Comprehensive Review Study (a.k.a. C&SF Restudy)~~, Comprehensive Everglades Restoration Plan (CERP), the IRL National Estuary Program Comprehensive Conservation and Management Plan, Regional Attenuation Facility Task Force, Strategic Policy Plan, and St. Johns River Water Management District Regional Water Supply Planning Assessment, the Kissimmee Basin Water Supply Plan, and the Northern Palm Beach County Comprehensive Water Management Plan.

The goal and associated objectives captured the key issues and concerns in the UEC Planning Area and provided direction for the planning process.

Regional Water Supply Plans

Regional water supply plans (RWSPs) provide more detailed, region-specific information than the water supply assessments. Analyses are conducted within each RWSP that evaluate the impacts of projected demands on available water resources and water resource related natural systems. If projected impacts are more severe than a pre-defined threshold, then recommendations are made to increase the availability of additional water resources until the impacts are reduced below the threshold.

Each regional water supply plan is based on at least a 20-year future planning horizon and includes, but not limited to the following components:

- A water supply development component
- A water resource development component
- A recovery and prevention strategy for addressing attainment and maintenance of MFLs in priority water bodies
- A funding strategy for water resource development projects that shall be reasonable and sufficient to pay the cost of constructing or implementing all of the listed projects
- Consideration of how the options addressed serve the public interest or save costs overall by preventing the loss of natural resources or avoiding greater future public expenditures for water resource development or water supply development (unless adopted by rule, these considerations do not constitute final agency action)

- The technical data and information applicable to the planning area that are contained in the DWMP (SFWMD, 2000f) and necessary to support the RWSPs
- The MFLs established for water resources within the planning area

Planning Process

The Florida Department of Environmental Protection (FDEP) and the water management districts of Florida met several times between 2000-2003 to discuss the outline and contents of regional water supply plans. The agreed upon outline is provided in **Appendix X**. Several topics can be abbreviated in these updates, referencing the previous plan for more detail. A notable change in the outline is a provision which allows justification if modeling is not included in the update.

Relationship to Districtwide Water Supply Assessment

In 1997 Chapter 373, F.S. was modified, changing several water supply planning requirements. Among these was the introduction of a requirement for each water management district to prepare a Districtwide Water Supply Assessment (DWSA). Part of the analysis completed in the DWSA was to identify areas that had the potential for demands exceeding available supplies (without causing unacceptable environmental impacts) over a 20-year future time horizon, and for these areas, each District was required to prepare regional water supply plans. The Districtwide Water Supply Assessment (SFWMD, 1998) confirmed the decision for the SFWMD to prepare water supply plans that cumulatively cover the entire SFWMD.

The DWSA was updated in 2003 (pending) and provided the updated water demand assessments for 2000 and projections through 2025 for all categories of uses for this plan update. Water demands are presented for the water use categories of:

- Public water supply
- Domestic self supply and small public systems
- Commercial/Industrial self supply
- Recreational self supply
- Thermoelectric power generation self supply
- Agricultural self supply

Selection of water supply planning regions, changes made in this cycle of the plans

Minimum changes were made to the Upper East Coast Planning Area boundary in the 1998 DWSA. The boundary changes were made to more accurately reflect the way in which analyses have been made (by county). This incorporated transferring small areas of Martin and St. Lucie counties from the Kissimmee Basin to the Upper East Coast. This reduced the number of counties split between the two planning regions from three to one.

Public Participation

Upon completion of the last of the regional water supply plans in the spring of 2000, the District decommissioned all four of the Regional Water Supply Plan Advisory Committees. The primary reason for decommissioning the advisory committees was that they had fulfilled their missions. The SFWMD Governing Board decommissioned the advisory committees during the March 2000 Governing Board meeting.

The Water Resources Advisory Commission (WRAC) was established by the SFWMD Governing Board in March 2001 as an advisory body to the Governing Board, and as a forum for improving public participation and decision-making in water resource issues affecting South Florida. The WRAC includes members from various interests (e.g., environmental, urban, and agricultural) in all four of the District's planning regions. The WRAC is the primary venue to conduct workshops, present information and receive public input on water resource issues. WRAC committees are open to the public and all agencies so that comprehensive input to the planning process can be achieved. The WRAC held __ Upper East Coast Water Supply Regional Workshops from August 2003 through February 2004.

Coordination with adjacent districts

Coordination with St. Johns River Water Management District (SJRWMD) has been ongoing through out the water supply planning process. Representatives of the SJRWMD attended several of the regional water supply workshops. Coordination also occurs through Water Planning Coordination Group meetings in which staff from neighboring water management districts and the FDEP discuss methodologies for demand projections, outlines and schedules for regional water supply plans, conservation and reuse. Consistency in water supply planning among the districts is a primary reason for these meetings.

Description of the Planning Area

The Upper East Coast is one of four regional planning areas in the SFWMD. The planning area covers 1,230 square miles and includes all of Martin and St. Lucie counties, and a small portion of Okeechobee County (**Figure 3**). There is a transition in land use within the region from urban in the east to agricultural in the west. Agriculture has been the predominant land use and is expected to remain so in the future. Citrus is by far the dominant crop in the planning area and occupies over four-fifths of the irrigated agricultural acreage in the region. Interspersed with these land uses are about 200,000 acres of upland forests and wetlands.

The 2000 Census (U.S. Bureau of the Census, 2001) showed St. Lucie County to have 19,695 residents and Martin County to have a population of 126,731. The Okeechobee Area (the portion of the county within the UEC) was assessed as 1,925. Port St. Lucie is the most populous city in the UEC, and had 90,500 residents in 2000.

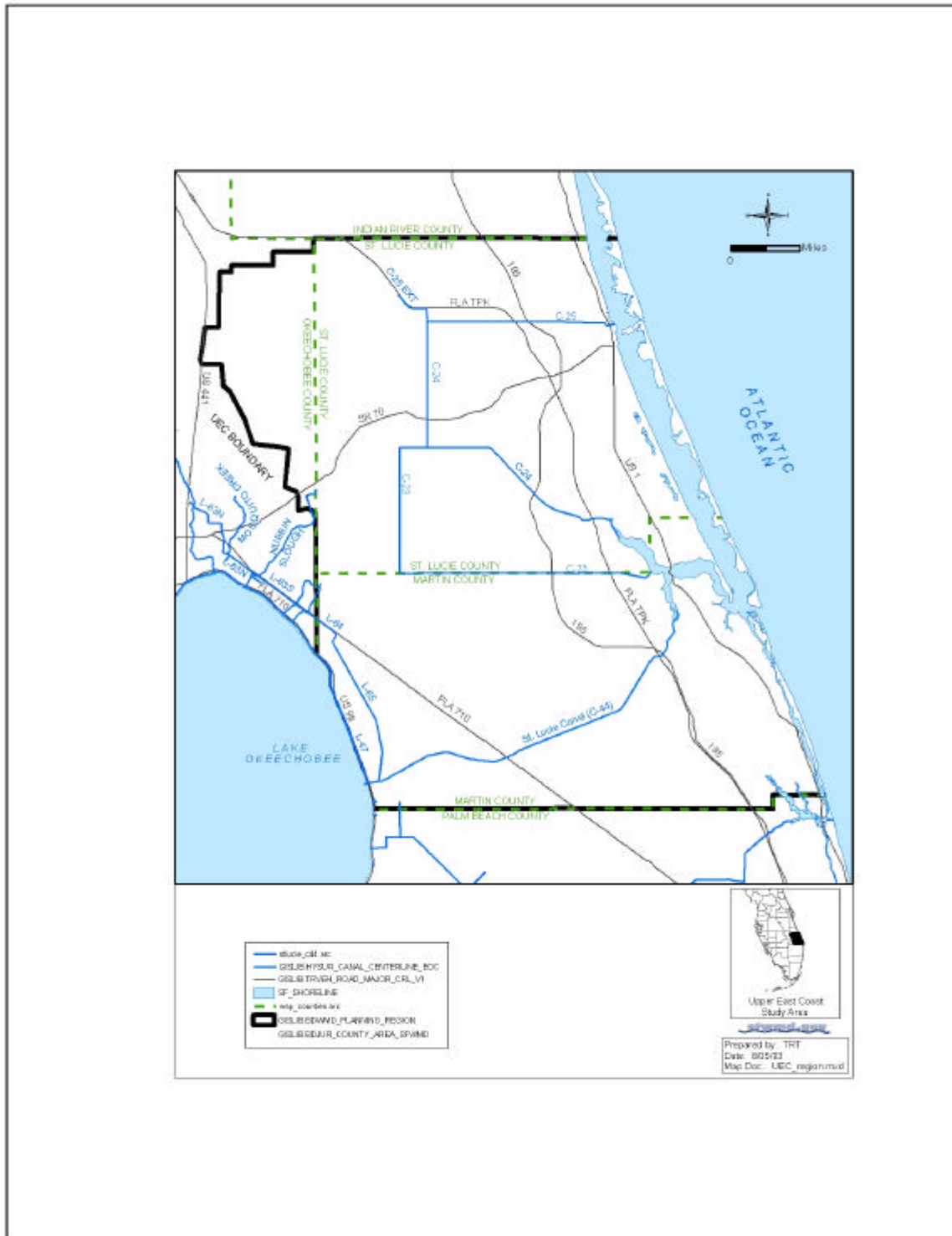


Figure 3. Upper East Coast Planning Area

Accomplishments

The 1998 Plan recommendations were organized under five water source options. The water source options and recommendations were developed to resolve water supply issues which were identified in the analyses conducted in the planning process. These issues included surface water availability, Floridan water quality, limits on surficial aquifer expansion, discharges to the St. Lucie Estuary and Indian River Lagoon, and saltwater intrusion vulnerability.

In moving from issue identification to solution development, several water source options were considered to address the water supply issues identified. Eight water source options were initially identified to consider in the UEC Planning Area. These options either make additional water available from the same source or other sources (e.g., the Floridan aquifer), or they reduce demand (e.g., conservation). The eight options are:

- Surface water storage
- Aquifer storage and recovery (ASR)
- Floridan aquifer
- Surficial aquifer system (SAS) wellfield expansion
- Conservation
- Wastewater reuse
- Utility interconnects
- Ocean water

Development of each of these options had regional, as well as local responsibilities. The water source options and the responsibilities at the regional and local levels were discussed in Chapter 5 of the 1998 Plan.

Twenty-two of the thirty recommendations listed in the 1998 Plan were implemented. The recommendations put into practice from the 1998 Plan are presented in **Table 1**. They are organized by the water source option listed in the aforementioned bullet list. Each recommendation was numbered according to the water source option to which it belonged. There were no recommendations developed for SAS wellfield expansion or ocean water.

Although there were seven recommendations for ASR, only one was implemented (Recommendation 2.5 related to rulemaking). Four of these recommendations relied on the IRL Feasibility Study for implementation. However, the Feasibility Study identified ample reservoir and natural area storage to meet the environmental needs of the St. Lucie River. In addition, ASR technology has not been utilized by the public water utilities in the UEC region due to the availability of other water sources. Therefore, it is suggested that ASR recommendations be given careful consideration before including them in this plan update.

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